EFFLUENT PUMP STATION IMPROVEMENTS

IKE DISASTER RECOVERY CDBG FUNDED PROJECT

CITY OF LASALLE, ILLINOIS

745 SECOND STREET, LASALLE, IL - 61301

MAYOR

JEFF GROVE

COUNCIL MEMBERS

JAMES DEMES
JIM BACIDORE
JERRY REYNOLDS
TOM PTAK
JOHN LAVIERI
JOHN DUNCAN III
MARK SCHNEIDER
T. BOO HERNDON

DIRECTOR OF ECONOMIC DEVELOPMENT

DONALD J. ALEKSY
(815) 488-4442

DIRECTOR/SUPERINTENDENT OF PUBLIC WORKS

SAM MCNEILLY
(815) 228-3753

CITY ENGINEER

MIKE FURLAN
(815) 233-7041

Dial 811 or 1-800-892-0123

811 Know what's below. Call before you dig.

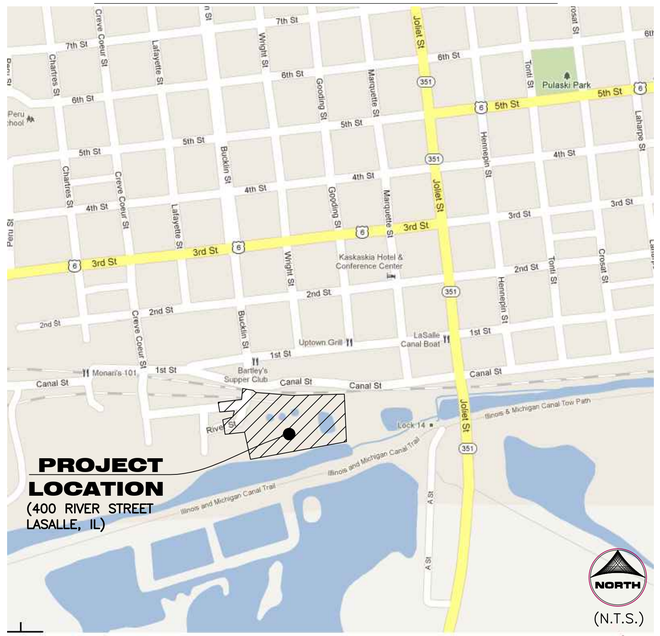
WITH THE FOLLOWING:
COUNTY LASALLE COUNTY
CITY–TOWNSHIP LASALLE–LASALLE, NW PART DEERPARK TOWNSHIP
SEC. & 1/4 SEC. NO.# 15–33N–1E

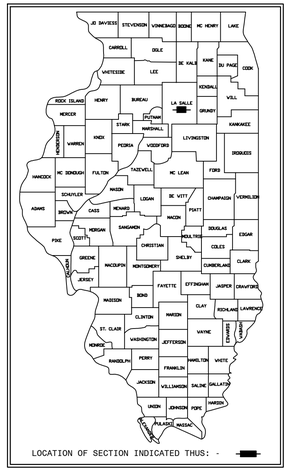
Two (2) working days before you dig
(Excluding Sat., Sun. & Holidays)

SITE BENCHMARKS:

SEE SHEET C100 FOR SITE BENCHMARKS

2012
LOCATION MAP





SHEET INDEX

HRGreen

NOTE:

- HR GREEN, INC. IS TO BE NOTIFIED 3 DAYS PRIOR TO CONSTRUCTION START.
- HR GREEN, INC. SHALL BE INCLUDED IN ALL PRE–CONSTRUCTION MEETINGS.
- ANY KNOWN DISCREPANCIES ON THIS PLAN SET MUST BE BROUGHT TO THE ATTENTION OF HR GREEN, INC. PRIOR TO THE START OF CONSTRUCTION.

CERTIFICATION

CIVIL

LICENSED PROFESSIONAL ENGINEER — EDWIN O. COGGIN — 062-047381 — STATE OF ILLINOIS

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Illinois.

EDWIN O. COGGIN, P.E. DATE
License Number: 062-047381
My license renewal date is November 30, 2013.
Pages or sheets covered by this seal:

651 PRAIRIE POINTE, SUITE 201 | YORKVILLE, IL 60560
Phone: 630.553.7560 | Toll Free: 800.728.7805 | Fax: 630.553.7646 | HRGreen.com

BID DOCUMENTS NOT FOR CONSTRUCTION

DRAWN BY: MPL JOB DATE: 2013
APPROVED: AJ JOB NUMBER: 88110269
CAD DATE: 6/16/2013 2:32:22 PM
CAD FILE: \\hrgyvnas\Data\88110269\Lift Station\CAD\dwg\S\88110269–Cover.dwg

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
ILLINOIS DESIGN FIRM # 184.001322
651 PRAIRIE POINTE, SUITE 201
YORKVILLE, ILLINOIS 60560
PHONE: 630.553.7560 | TOLL FREE: 800.728.7805
FAX: 630.553.7646 | HRGreen.com

EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

GENERAL
COVER SHEET

SHEET NO.
G100

Xrefs: xgt-1-dh01

UTILITY CONTACTS

UTILITY SERVICE	CONTACT	TELEPHONE #
WATER, SANITARY, STORM DRAINAGE	CITY OF LASALLE – PUBLIC WORKS SAM MCNEILLY 745 SECOND STREET LASALLE, ILLINOIS 61301	(815) 223-6344 (815) 228-3753
ELECTRICAL POWER	AMEREN IP TIM McTAGGART DEB RATAJCZAK 340 RACCUGLIA DR LASALLE, IL 61301	 (815) 224-6270 (815) 343-8303
NATURAL GAS	AMEREN IP TIM McTAGGART DEB RATAJCZAK 340 RACCUGLIA DR LASALLE, IL 61301	 (815) 224-6270 (815) 343-8303
TELEPHONE	AT&T JOE HONKISZ 65 WEST WEBSTER JOLET, IL 60433	(815) 727-0479 (815) 274-3965
CABLE	COMCAST 2216 MARQUETTE RD PERU, IL 61354	(815) 223-1106
IEPA	I.E.P.A. – PERMIT SECTION, DIVISION OF WATER POLLUTION P.O. BOX 19276 SPRINGFIELD, IL 62794-9276	
RAILROAD-INACTIVE	ADAM HESS DIRECTOR OF REAL ESTATE LANDRAIL, LLC 50 SOUTH STEELE STE 374 DENVER, CO 80209	P:(303) 398-4522 C:(720) 270-4470

SPECIAL WASTE CONTAMINATION COORDINATION CONTACT

BRIAN MARTIN, CHMM CONSULTING ENVIRONMENTAL SCIENTIST AMEREN SERVICES		P:(314) 554-2233 C (314) 609 1029
AMEREN'S ENVIRONMENTAL CLEANUP PROJECT (WEST PROPERTIES)	PSC PETER SAZANA 210 W. SANDS BANK RD COLUMBIA, IL 62236 PETER.SAZANA@PSCNOW.COM	P:(618) 281-1575 C:(314) 750-1458

SYMBOL LEGEND

	EXISTING	PROPOSED
SANITARY MANHOLE		
STORM MANHOLE		
STORM CATCH BASIN/INLET		
INLET		
FLARED END SECTION		
VALVE VAULT		
WATER SERVICE VALVE		
FIRE HYDRANT WITH AUXILIARY VALVE		
LIGHT POLE		
REGULATORY SIGN		
UTILITY POLE		
UTILITY BOX	GAS ELEC CATV	GAS ELEC CATV
MAILBOX		
WELL	W	
SANITARY SEWER		
STORM SEWER		
CULVERT		
PERFORATED UNDERDRAIN		
WATER MAIN	W	W
WATER MAIN ENCASEMENT	W	W
SANITARY FORCE MAIN		
ELECTRIC LINE	E	E
TELEPHONE LINE	T	T
GAS LINE	G	G
CABLE TV LINE	CATV	CATV
FIBER OPTIC LINE	FO	FO
UNDERGROUND ELECTRIC	UE	UE
RAILROAD TRACKS		
TREE LINE		
TREE		
TREE REMOVAL		
TREE PROTECTION		
CONTOURS		
SPOT ELEVATION	EXIST	PROP
FENCE	x	
WETLAND		
MARSH / WETLAND		
RIPRAP		
EROSION CONTROL FENCE (QUANTITY SPECIFIED PER PLANS)		
DRAINAGE DIRECTION ARROW		
DRAINAGE OVERFLOW DIRECTION		

SITE BENCHMARKS:

SOURCE BENCHMARK:
NGS DATA SHEET
DESIGNATION: D 232
PID: MF0840
PUBLISHED ELEVATION: 465.54 (NAVD 88)
LOCATED WITH VRS ON 11-28-2011
ELEVATION: 465.43 (NAVD 88)

SITE BENCHMARKS:
BENCHMARK 1:
FOUND RAILROAD SPIKE IN POWER POLE NEAR THE NORTHEASTERLY CORNER OF THE LASALLE WWTP PROPERTY. POLE IS OUTSIDE OF FENCED AREA, SOUTH AND WEST OF GRAVEL ACCESS ROAD. APPROXIMATELY 82' SOUTH OF ACTIVE RAILROAD TRACKS & 610' EASTERLY OF BUCKLIN ST.
ELEVATION: 466.96 (NAVD 88)

BENCHMARK 2:
FOUND MAG NAIL IN NORTHEAST CORNER OF BRICK UTILITY BUILDING NEAR THE SOUTHWESTERLY CORNER OF THE LASALLE WWTP PROPERTY.
ELEVATION: 462.26 (NAVD 88)

BENCHMARK 3:
CUT "X" IN CONCRETE AT NORTHWEST CORNER OF BRICK BUILDING AND UNDER NORTHEAST CORNER OF CANOPY NEAR THE NORTHWESTERLY CORNER OF LASALLE WWTP PROPERTY. APPROXIMATELY 180' SOUTH OF ACTIVE RAILROAD TRACKS & 90' EASTERLY OF BUCKLIN ST.
ELEVATION: 460.45 (NAVD 88)

BENCHMARK 4:
FOUND RAILROAD SPIKE IN POWER POLE WEST OF LASALLE WWTP PROPERTY. POLE IS ON SOUTH SIDE OF GRAVEL ROAD APPROXIMATELY 65 FEET WEST OF NORTHWESTERLY FENCE CORNER OF SAID PROPERTY. APPROXIMATELY 9' SOUTH OF RIVER ST. & 124' WEST OF WESTERLY MOST PROPERTY LINE.
ELEVATION: 455.81 (NAVD 88)

STANDARD SPECIFICATION FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS (SIXTH ADDITION JULY 2009)

STANDARD NO.	DESCRIPTION
STANDARD DRAWING NO. 1	RIGID PIPE INSTALLATION DETAIL
STANDARD DRAWING NO. 2	FLEXIBLE PIPE INSTALLATION DETAIL
STANDARD DRAWING NO. 3STM	TYPICAL MANHOLE TYPE A
STANDARD DRAWING NO. 9	TYPICAL TYPE A INLET
STANDARD DRAWING NO. 10	TYPICAL STORM CATCH BASIN
STANDARD DRAWING NO. 12	TYPICAL THRUST BLOCK INSTALLATIONS
STANDARD DRAWING NO. 12G	RETAINING GLAND RESTRAINT
STANDARD DRAWING NO. 12S	STRAPPING WATER MAIN 6" – 16"
STANDARD DRAWING NO. 13	TYPICAL VALVE VAULT DETAIL
STANDARD DRAWING NO. 14	TYPICAL VALVE BOX INSTALLATION
STANDARD DRAWING NO. 17	TYPICAL TAP SERVICE PIPING (COPPER)
STANDARD DRAWING NO. 18	WATER AND SEWER SEPARATION REQUIREMENTS (HORIZONTAL SEPARATION)
STANDARD DRAWING NO. 19	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
STANDARD DRAWING NO. 20	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
STANDARD DRAWING NO. 21	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
STANDARD DRAWING NO. 22	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
STANDARD DRAWING NO. 23	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)
STANDARD DRAWING NO. 24	WATER AND SEWER SEPARATION REQUIREMENTS (VERTICAL SEPARATION)

ILLINOIS D.O.T. STANDARD DETAILS

STANDARD NO.	DESCRIPTION
542311-02	GRATING FOR CONCRETE FLARED END SECTION
602701-02	MANHOLE STEPS
604036-02	GRATE TYPE 8

BID DOCUMENTS
NOT FOR CONSTRUCTION

DRAWN BY: MPL JOB DATE: 2013
APPROVED: AJ JOB NUMBER: 88110269
CAD DATE: 6/24/2013 12:40:55 PM
CAD FILE: \\hrgyvnas\Data\88110269\Lift Station\CAD\dwg\S\88110269-Cover.dwg

BAR IS ONE INCH ON OFFICIAL DRAWINGS. 0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

HRGreen
ILLINOIS DESIGN FIRM # 184.001322
651 PRAIRIE POINTE, SUITE 201
YORKVILLE, ILLINOIS 60560
PHONE: 630.553.7560 | TOLL FREE: 800.728.7805
FAX: 630.553.7646 | HRGreen.com

EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

CIVIL
SHEET INDEX, UTILITY CONTACTS AND SYMBOL LEGEND

SHEET NO.
C100

Xrefs: xgt-1-dh01

SPECIFICATIONS & GENERAL NOTES

All items of this project shall be governed by specifications included in the documents listed below:

A. "Standard Specifications for Road and Bridge Construction" prepared by the Department of Transportation of the State of Illinois and adopted by said department (Latest Edition).

B. "Supplemental Specifications and Recurring Special Provisions" adopted by the Illinois Department of Transportation (Latest Edition).

C. "Bureau of Design & Environment Manual" (BDE) by Illinois Department of Transportation (Latest Edition)

D. "Manual on Uniform Traffic Control Devices" – Federal Highway Administration MUTCD (Latest Edition).

E. "Illinois Supplement to the National Manual on Uniform Traffic Control Devices" (Latest Edition).

F. "Standard Specifications for Water and Sewer Main Construction in Illinois" (Latest Edition).

G. "Illinois Urban Manual" prepared by the U.S. Department of Agriculture NRCS and maintained by the Association of Illinois Soil and Water Conservation Districts (Latest Edition).

In addition the following special provisions supplement the said specifications, and in case of conflict with any part or parts of said specifications, these special provisions shall take precedence and shall govern.

1. SCOPE OF WORK: The proposed improvement consists of supplying all the necessary labor, material and equipment to satisfactorily construct and install all improvements according to the plans designated as Retaining Wall Construction Project IKE Disaster Recovery CDBG Funded Project.

2. CONSTRUCTION OF UNDERGROUND UTILITIES

   A. Excavation: Where working conditions and right–of–way permit, pipe line trenches with sloping sides may be used.

      The slopes shall not extend below the top of the pipe, and trench excavations below this point shall be made with vertical sides with widths not exceeding those specified herein for the various sizes of pipe.

      Open–cut trenches shall be sheeted and braced as required by the governing State and Federal laws and municipal ordinances, and as may be necessary to protect life, property, or the work.

      Where firm foundation is not encountered at the grade established due to unsuitable soil, all such unsuitable material shall be removed and replaced with approved compacted granular material.

   B. Width of trench: The maximum width of trench at the tip of the pipe shall be as follows: In addition see trench detail on Sheet C106.

Nominal Pipe Sizes (inches)	Trench Widths (inches)
12 or smaller	30
14–18	36
20–24	42
27–30	48
33 and larger	1 1/3 times pipe O.D.

   C. Removal of water: Contractors shall, at all times during construction, provide and maintain ample means and devices with which to remove and properly dispose of all water entering the excavations. No sanitary sewer shall be used for disposal of trench water.

   D. Bedding of pipe: All pipe shall be installed on a bed of approved, compacted granular material unless otherwise approved by the City Engineer. Bedding shall be provided for all underground pipelines, except where concrete encasement, concrete cradles, boring or jacking are indicated. Bedding shall be a minimum thickness of four inches and consist of gravel or crushed stone 1/4–inch to one inch in size. As a minimum, the bedding material shall conform to the requirements of the "Standard Specifications for Road and Bridge Construction," Illinois Department of Transportation. The gradations shall conform to gradation CA7, CA8, CA13 or CA13 therein. Note that when PVC or ADS pipe is used, the bedding material shall extend to 12 inches over the top of the pipe. Bedding shall be properly compacted. The bedding and backfilling of excavated materials shall be verified with City first and be installed as per typical trench backfill detail.

      Wherever two or more pipes or conduits are placed in the same trench or excavated area, backfill the trench with granular bedding material to support the uppermost pipe or conduit.

   E. Trench backfill: Whenever the excavation is within 2' of existing or proposed street, parking areas, driveways, or other paved areas, the trench shall be backfilled with an approved selected granular material (CA–6 crushed stone or sand), compacted in place. The top 12" of the backfill shall be filled with road gravel or crushed stone and maintained as a temporary surface for the normal use of the area. Special backfill shall consist of CA–6 crushed stone and shall be compacted in place to ninety–five percent (95%) of maximum density at optimum moisture as determined by the Standard Proctor Test. Refer to the City standard trench detail. Note: Excavated materials may be used if approved by the Engineer.

   F. Restoration of drainage: As soon as possible after backfilling the trench, all ditching, grading and shaping necessary to restore the original drainage in the area of work shall be performed. Culverts removed during the course of the work shall be replaced as soon as practicable.

      Adequate temporary drainage facilities meeting the approval of the Engineer shall be provided during construction.

   G. Utilities: The Contractor shall notify all utilities owners prior to the installation of any pipe lines. Where conflict exists between underground utilities and the proposed underground piping requiring a revision to the plans, such construction shall not be undertaken until such changes are approved by the City Of LaSalle and or Engineer in writing.

   H. Removal of Storm and Sanitary Sewer Pipes: This work consist of removing and disposal of all storm and sanitary sewer structures and related pipes as shown on the plans. Storm and Sanitary Sewer removal will be paid for at the contract per lineal foot price. Structures shall be paid for at the contract unit price each. Both are to include all labor to remove the pipes and structures and trench backfill with compaction is to be considered incidental to the unit cost of removal.

3. The Engineer and the City Of LaSalle shall be notified if, during construction, any buried field tiles are exposed or disturbed. The Contractor shall reconnect said field tiles if deemed necessary.

4. SANITARY SEWER SERVICE CONFLICTS.

   Contractor shall perform exploratory excavation in areas of sanitary sewer services prior to construction of storm sewer to determine extent of sanitary sewer service conflicts with proposed storm sewer. If any service(s) conflict with proposed storm sewer, written notice shall be given to the design engineer, the City Of LaSalle, service owner and affected resident(s) regarding temporary loss of service to allow reconstruction of sanitary sewer service. 48 hours notice of temporary loss of service shall be provided and service shall not be interrupted more than 4 hours. If in conflict, sanitary sewer service shall be cut on either side of proposed storm sewer and reconnected with PVC SDR 26 of compatible size to allow service to pass under storm sewer or as specified by the City Of LaSalle.

5. The Contractor may not remove any material from the site except as directed by the Owner or Engineer in the case of excess material encountered and not part of a removal item or bid item.

6. EROSION CONTROL. It shall be the Contractor's responsibility to properly control erosion on the jobsite. Any siltation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor until the seeding has taken hold. All washouts, gullies, etc. will be regraded and reseeded by the Contractor.

   The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for clean–up of paved surfaces within and adjacent to the project on a timely basis and/or at the direction by the Owner or Engineer.

   All construction will adhere to the requirements set forth in the IEPA's General NPDES Permit for Stormwater Discharge from construction site activities.

7. TOPSOIL PLACEMENT. Contractor shall place stockpiled topsoil or imported material on all disturbed areas within the construction limits with a minimum 6" topsoil raked smooth to be ready for landscaping (seeding, sod, etc.). Based on existing soil boring report, existing topsoil excavation for this project is assumed to be at 4" depth (topsoil strip) for overall earthwork calculations.

8. SEEDING. All unpaved areas within the street right–of–way shall be seeded with a Kentucky Bluegrass mixture or with another mixture approved by the City Engineer. All unpaved areas between the edge of the road and the right–of–way shall have an adequate growth of grass before work is finally accepted.

   A. Kentucky Bluegrass Seed Mixture and Mulch Method 2 per Article 251.03 are to be used on restored ROW areas and within the School site.

   B. Native Vegetation Seed Mix and SC 250 Turf Reinforcement Mat to be used within cleared, grubbed and restored Mellor Road Ditch/Easement. Type 4B seed to be used on bottom of channel or ditch to one foot up side slope and Types 4A and 5A to be used on side slopes above one foot from bottom of channel or ditch.

9. CONSTRUCTION OBSERVATION
   All improvements shall be subject to observation by a duly authorized and qualified City or owner's representative both during the course of construction and after construction is complete for final project closeout.

10. The Engineer shall be responsible for the following:

    A. To visit the construction site in order to better carry out the duties and responsibilities assigned by the Owner and undertaken by the Engineer; and

    B. The Engineer shall not, during such visits or as a result of such observations of the Contractor's work in progress, supervise, direct, have control over the Contractor's work, nor shall the Engineer have the authority over the responsibility for the means, methods, techniques, sequences, or procedures of construction selected by the Contractor, for safety precautions and programs incidental to the work of the Contractor, or for any failure of the Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to the Contractor furnishing and performing his work. Accordingly, the Engineer can neither guarantee the performance of the construction contracts by the Contractor nor assume responsibility for the Contractor's failure to furnish and perform his work in accordance with the Contract Documents.

11. No construction plans shall be used for construction unless specifically marked "For Construction." Prior to commencement of construction, the Contractor shall verify all dimensions and conditions affecting their work with the actual conditions at the job site. In addition, the Contractor must verify the Engineer's line and grade stakes. If there are any discrepancies from what is shown on the construction plans, he must immediately report same to the Engineer before doing any work, otherwise the Contractor assumes full responsibility. In the event of disagreement between the construction plans, standard specifications and/or special details, the Contractor shall secure written instructions from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. Failing to secure such instructions, the Contractor will be considered to have proceeded at his own risk and expense.

In the event of any doubt or question arising with respect to the true meaning of the construction plans or specifications, the decision of the Engineer shall be final and conclusive.

12. Sawing of removal items as noted on the plans, specified in Section 440 of the Standard Specifications, or as required by the engineer, shall be considered incidental to the cost of the item being removed, and no extra compensation will be allowed, unless otherwise specified. All pavement removed within the 1–foot sawcut along the item being sawcut shall be considered incidental to earth excavation.

13. Where storm sewer is located above the water main, the reinforced concrete pipe shall have O–rings to provide a water tight seal and to create a water quality pipe.

14. The contractor shall call JULIE (1–800–892–0123) at least 48 hours prior to the start of construction.

15. Trench backfill is required over the existing utilities which will be under the influence zone of pavements.

16. INDEMNIFICATION

    Contractor shall provide indemnification as per Article 107.26 of the Standard Specifications. All costs for insurance shall be considered incidental to the contract.

ADDITIONAL REQUIREMENTS: The Contractor shall also indemnify and hold harmless, HR Green, Inc. and the City of LaSalle its officers, employees, agents, and subcontractors. The Contractor shall not commence work until additional indemnification requirements have been obtained under this paragraph.

17. INSURANCE AND LIABILITY

    Contractor shall provide insurance coverage as per Article 107.27 of the Standard Specifications. All costs for insurance shall be considered incidental to the contract.

    The "Department" shall be taken to mean City of LaSalle The policy of insurance shall include HR Green, Inc. and the City of LaSalle and it's Agents as an additional insured or provide separate coverage with an Owner's Protective Policy, as per the amounts stated in the Standard Specifications. No work shall begin until the certificate of insurance is on file with the Engineer.

ADDITIONAL REQUIREMENTS: The Contractor shall secure and maintain such insurance from an insurance company authorized to write casualty insurance in the State where the work is located and also will protect and list as additional insured, HR Green, Inc. and the City of LaSalle and his subcontractors and his employees from claims for bodily injury, death or property damage which may arise from improvements on the property. The Contractor shall not commence work until he/she has obtained all insurance required under this paragraph and filed the certificate of insurance or the certified copy of the insurance policy.

18. SITE CLEAN UP

    When construction operations take place adjacent to public roadways the contractor shall be responsible for removal of all loose debris deposited on the pavement. The stock piling of spoils from foundations or utility excavations will not be allowed on the pavement or in special management areas such as floodplains or wetlands. Routine site clean up shall be considered incidental to the contract and as part of Contractor's responsibilities

COORDINATION WITH UTILITIES

Prior to the start of construction, the contractor shall have all utilities located by J.U.L.I.E (1–800–892–0123). The contractor shall cooperate with all utility owners as provided for in the Standard Specifications.

The contractor shall be responsible for the protection of all underground or surface utilities, even though they may not be shown on the plans. Any utility that is damaged during construction shall be repaired or replaced to the satisfaction of the Engineer or the Owner. This work shall be paid for at the Contractor's expense.

It is the Contractor's responsibility to locate all existing utilities prior to construction. The location of existing utilities as shown on these plans is based on record information and may not be accurate. Where conflict exists between existing utilities and the proposed underground piping requiring a revision to the plans, such construction shall not be undertaken until such changes are approved by the Engineer. The contractor shall report all such conflicts immediately to the Engineer.

All existing utilities within the project area shall be removed and relocated, if necessary, for construction by the utility company which has jurisdiction over it. The Contractor is respocible for scheduling with the appropriate utility company.

Where proposed water main crosses under existing gas main the Contractor shall provide extra care when installing proposed water main to prevent damage to existing gas main.

The coordination of all utility work for the construction project will be discussed at a pre construction meeting.

STAKING

The contractor shall protect and carefully preserve all section or subsection monuments or property or reference markers until the Owner, his agent or an authorized surveyor has witnessed or otherwise referenced their locations

All offset locations given on the detailed plans for structures, fittings, etc., are from the centerline of the existing roadway, as shown on these plans.

All elevations are on U.S.G.S. Datum. (NAVD 88).

EROSION CONTROL & LANDSCAPE RESTORATION

It shall be the Contractor's responsibility to properly control erosion on the job site through the use of siltation ponds, filter fabrics, etc. Any siltation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor until the seeding has taken hold. All washouts, gullies, etc. will be regraded and reseeded by the Contractor.

For all drainage structures in the disturbed areas, silt filter baskets shall be placed between frame and grate and maintained by the Contractor until vegetation is established, as determined by the City.

The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for cleanup of paved surfaces daily within and outside of the project caused by the Contractor.

Erosion control structures must be inspected weekly and after every storm of one half inch of rainfall or greater by the Contractor. An inspection report must be submitted by the Contractor to the City following each inspection. Any repairs or replacement needed to ensure adequate erosion control must be made immediately at the Contractor's expense.

Final grade shall meet existing grade and shall be of at least 8" of topsoil, grass seed, and excelsior blanket, as determined by the City.All grading shall be considered included in the cost of water main construction and restoration.

Sanitary Sewer System

1. Every sanitary sewerage system and related appurtenances shall be designed and constructed in accordance with the Requirements of Law, including without limitation these Specifications and the Illinois Recommended Standards for Sewage Works, except as amplified below.

2. Material Requirements

   A. Extra Strength Concrete Sewer Pipe (ESCSP) – conforming to the requirements of ASTM C76.

   B. Ductile Iron Main – conforming to the requirements of ANSI A21.51 thickness class 52.

   C. Thick Walled PVC Pipe – shall conform to the requirements of ASTM D2241 SDR 26 as a minimum.

3. Sewer Materials Information

   A. Pipe Joints.

      1. Reinforced concrete pipe – ASTM C443.
      2. Ductile iron pipe – ANSI A21.11 (A.W.W.A. C111).
      3. PVC. thick walled pipe – ASTM D3212 and F477.

   B. Fittings
      a. Ductile Iron.

         - Flanged joint pipes ANSI Class 25 comply with ANSI 21.10 or ANSI B16.1. Mechanical joints comply with ANSI A121.10 and ANSI A121.11 or ANSI A21.53.

      b. Thick Wall PVC Pipe.

         - Size thru eight (8) inch: molded in one piece with elastomeric joints and minimum socket depths as specified section 6.2 and 7.32 9f ASTM D3034.
         - Size ten (10) inch or larger: molded or fabricated in accordance with Section 7.11 with manufacturers standard pipe bells and gaskets.

4. Inspection and testing

A. Infiltration:

   a. Maximum allowable infiltration allowed shall be two hundred (200) gallons per inch of diameter of the sewer per mile per twenty–four (24) day at any time for any section of the system. The joints shall be tight and visible leakage in the joints, or leakage in excess of that specified above, shall be repaired at the contractor's expense by means approved by the City Engineer.

B. T.V. Testing.

   a. Upon completion of construction and prior to acceptance of the sewer system and again prior to expiration of the maintenance guarantee, the sewers systems shall be inspected through use of standard closed circuit T.V. equipment with audio. The T.V. inspections shall be done by the contractor and witnessed by the City Inspector. The Contractor will submit to the Engineer three (3) DVD copies of the televised sewer along with a detailed report. The Contractor at his expense shall repair all deficiencies noted during the T.V. inspection by means approved by the City Engineer/Inspector.

C. Infiltration/Exfiltration Testing.

   a. Prior to City approval of the sanitary sewer system and before any connections are made, the system shall have passed infiltration or exfiltration tests conducted by the contractor and witnessed by the City Inspector.

   b. Immediately after backfilling, the entire length of the sewer trench, Including stubs, shall be inundated to normal ground water level or eighteen (18) inches above the top of sewer pipe, whichever is higher. At that time infiltration tests shall be made to determine compliance with allowable infiltration criteria. To measure the amount of infiltration, the contractor shall furnish, install, and maintain a V–notch shape crested weir in a metal frame tightly secured at the lower end of each sewer test section as directed by the City Inspector. The City Inspector will check the infiltration by measuring the flow over such weirs. When infiltration is demonstrated to be within the allowable limits, the contractors shall remove such weirs.

D. ABS, PVC and All other Thermoplastic Pipe Testing.

   a. No sooner than thirty (30) days after backfilling of the sanitary sewer a legibly stamped certified approved mandrel shall be pulled through all flexible thermoplastic pipe without the aid of mechanical pulling devices. Deflection will be limited to five (5) percent of the base inside diameter of the pipe of it is PVC pipe or five (5) percent of the average inside diameter if it is ABS pipe. At the location of any failure the embedment and backfill shall be carefully replaced and compacted. A retest shall be conducted no sooner than thirty (30) days after the area is backfilled. Prior to any testing the test sections shall be flushed and cleaned with water.

   b. ABS, PVC and all other Thermoplastic pipe shall also be low pressure air tested a 4.0 p.s.i. greater than ground water hydrostatic pressure. The total rate of air loss shall not exceed 0.0030 cubic feet of air per minute per square foot of internal pipe area. Failed sections shall be removed and replaced or repaired in a manner approved by the City Engineer.

E. Forcemain sewers shall be tested as follows:

   a. All storm sewer force main, services, fittings and valves shall be subject to a hydrostatic pressure of 110 psi after installation. Perform hydrostatic test after thrust blocks, supports, and anchors have hardened. Test according to ASTM F2164 "Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure", or AWWA C600, "Hydraulic Testing", as appropriate for pipe material. Each section of storm sewer force main and connections to be pressure tested shall be carefully filled with water to expel all entrapped air, and the test pressure shall be applied by use of a pump connected to a tap in the pipe. The test pressure shall hold without pressure loss or further pressure application far a duration of one hour. In the event of pressure loss, the Contractor shall locate and correct all leaks, and then repeat the hydrostatic pressure test until satisfactory to the Engineer. The Contractor shall provide all labor, materials, tools and equipment necessary to perform the pressure test. The Contractor shall satisfactorily perform the pressure tests prior to request the City Engineer to witness the official test.

      In the event of a failing pressure test, the contractor shall pay for water necessary to perform additional test(s).

   b. Ductile Iron Force Main Fittings:

      - Ductile iron fittings with mechanical joint complying with AWWA C110 or AWWA C153 and must be American made.
      - Use cement lining complying with AWWA C104, standard thickness.
      - Bolts, nuts and threaded rods: Use Corten bolts or Cor–Blue, nuts and threaded rods
      - Provide restrained joint type fittings that are compatible with system utilized, as specified by the pipe manufacturer.
      - Provide protection of movement of force main piping, valves, and bends of 11¼ degrees or greater using thrust blocks, retainer glands and threaded rod.
      - Alternate–fitting materials may be allowed upon review and approval of the City Engineer.

   c. Ductile–Iron Rigid Expansion Joints:
      Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

      - EBAA Iron, Inc.
      - U.S. Pipe and Foundry Company.
      - Approved Equal

      Description: Three–piece, ductile–iron assembly consisting of telescoping sleeve with gaskets and restrained–type, ductile–iron, bell–and–spigot end sections complying with AWWA C110 or AWWA C153. Select and assemble components for expansion indicated. Include AWWA C111, ductile–iron glands, rubber gaskets, and steel bolts. Pressure rating shall be 250 psig minimum.

   d. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

      Description: Metal, bolted, sleeve–type, reducing or transition coupling, with center sleeve, gaskets, end rings, and bolt fasteners and with ends of same sizes as piping to be joined.

      - Standard: AWWA C219.
      - Gasket Material: Natural or synthetic rubber.
      - Pressure Rating: 150 psig minimum.
      - Metal Component Finish: Corrosion–resistant coating or material.

Storm Sewer System

A. Storm sewers shall be laid straight in both horizontal and vertical planes between structures unless otherwise approved by the City Of LaSalle. Storm sewer trench spoil export shall be incidental to cost of storm sewer and contract. No stockpiling of spoils will be allowed in special management areas such as floodways, floodplains and wetlands.

B. Material Requirements
   a. Storm sewers shall be reinforced concrete pipe (RCP) conforming to ASTM C–76, Class IV round pipe or ASTM C–507, Class HE–111. Class of pipe shall conform to section 542 of the "Standard Specifications for Road and Bridge Construction" Illinois Department of Transportation, latest edition. Alternate storm sewer materials may be allowed upon review and approval of City Of LaSalle.

   b. Pipe joints shall be 'O' ring joints conforming to ASTM C–361.

   c. Manholes, catch basins and inlets shall be precast reinforced concrete conforming to ASTM C–478.

   d. Joints between manhole, catch basin, and inlet sections shall be filled with preformed bitumastic joint filler of sufficient size to completely seal.

   e. Adjusting rings shall be precast concrete rings.

   f. Castings.

      - See Special Provisions
      - Steps shall be Neenah R–1981–I or approved equal.

CONSTRUCTION REQUIREMENTS

A. Storm sewers shall be constructed in accordance with the "Standard Specifications for Road and Bridge Construction" Illinois Department of Transportation, Standard Specifications for Water and Sewer Main Construction in Illinois, the pipe manufacturer's recommendations, and these Development Standards.

B. Adjusting rings for manholes, catch basins, and inlets shall be limited to a maximum of three (3) rings and maximum height of eight (8) inches.

C. When adjusting rings are required on structures a cement mortar or bituminous material coating shall be applied to the outside of the rings.

D. Lifting holes in structure sections and sewer pipe shall be plugged with appropriate sized concrete lift plugs and coated with bituminous material.

INSPECTION AND TESTING

A. All sewers and appurtenances shall be cleaned prior to inspection and testing. Upon completion of construction and prior to acceptance of the storm sewer and again prior to expiration of the maintenance guarantee, the storm sewers shall be inspected through the use of standard T.V. equipment for final approval.

BID DOCUMENTS
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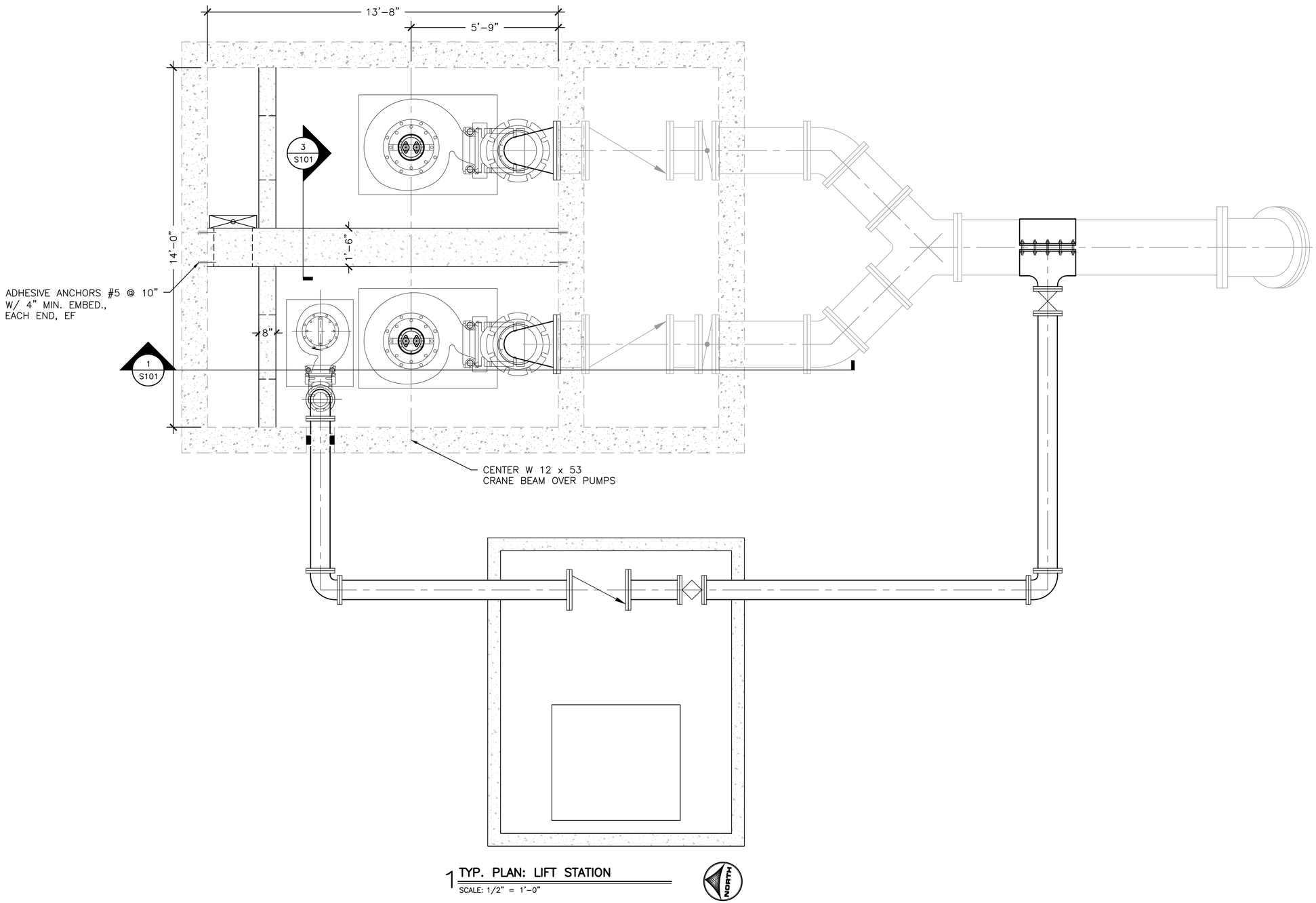
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

CIVIL
SPECIFICATIONS & GENERAL NOTES

SHEET NO.
C101

Xrefs: xg1–dn01



1 TYP. PLAN: LIFT STATION

SCALE: 1/2" = 1'-0"

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APPROVED: JMW JOB NUMBER: 88110269
CAD DATE: 6/11/2013 2:26:48 PM
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EFFLUENT PUMP STATION IMPROVEMENTS
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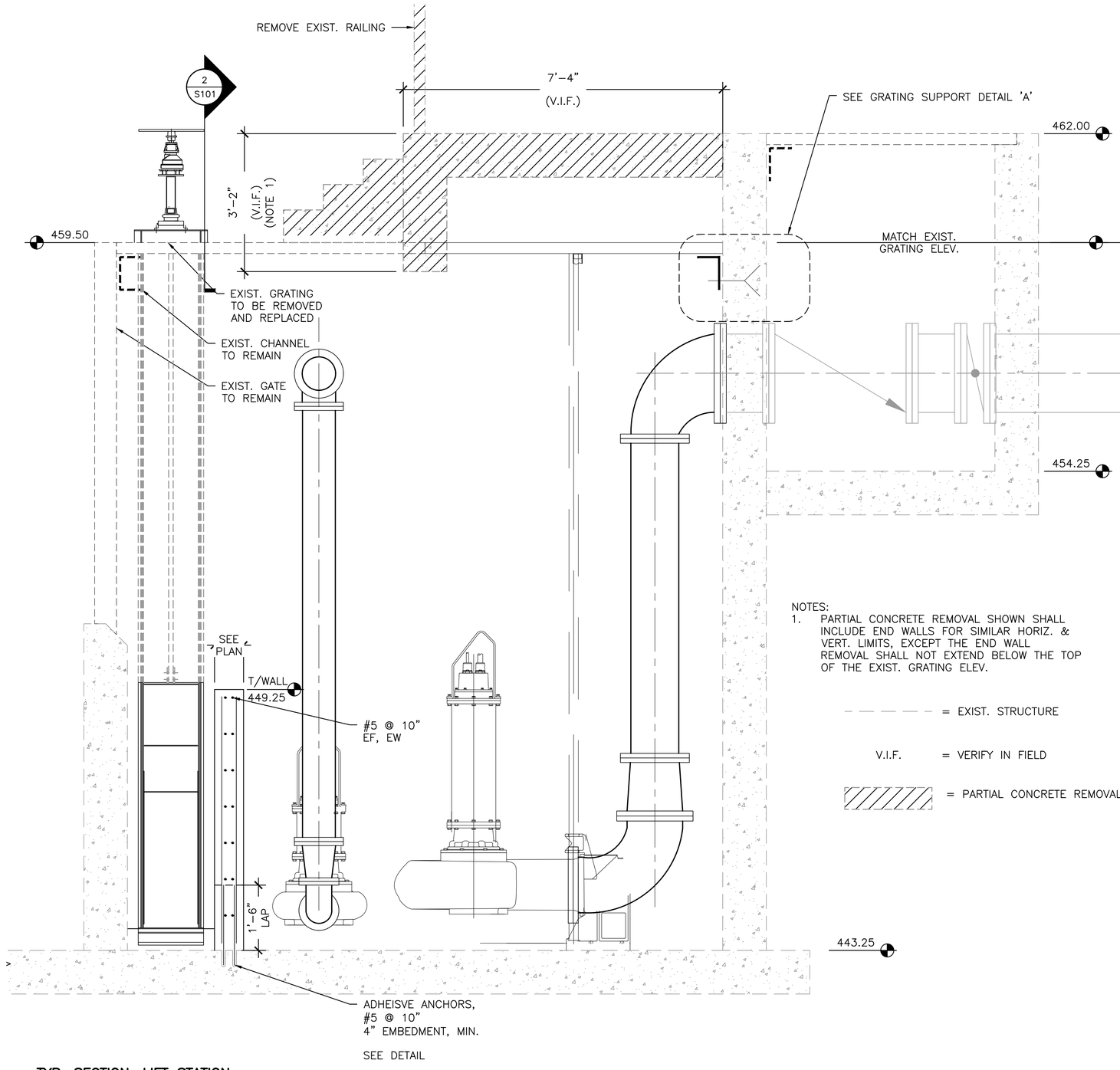
CITY OF LASALLE, ILLINOIS

STRUCTURAL

LIFT STATION PLAN VIEW

SHEET NO.
S100



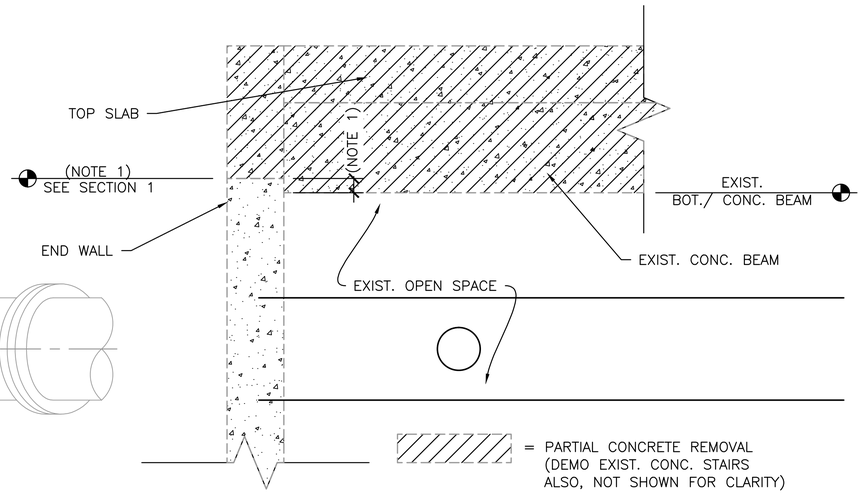
NOTES:
1. PARTIAL CONCRETE REMOVAL SHOWN SHALL INCLUDE END WALLS FOR SIMILAR HORIZ. & VERT. LIMITS, EXCEPT THE END WALL REMOVAL SHALL NOT EXTEND BELOW THE TOP OF THE EXIST. GRATING ELEV.

= EXIST. STRUCTURE

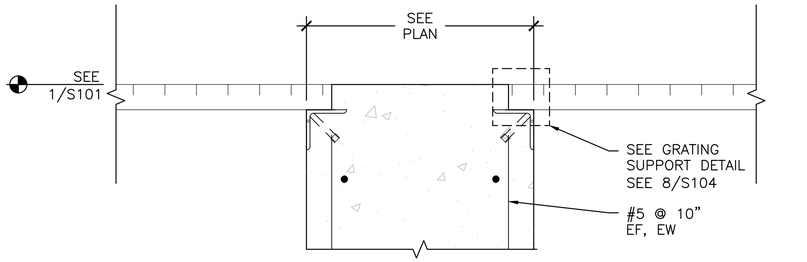
V.I.F. = VERIFY IN FIELD

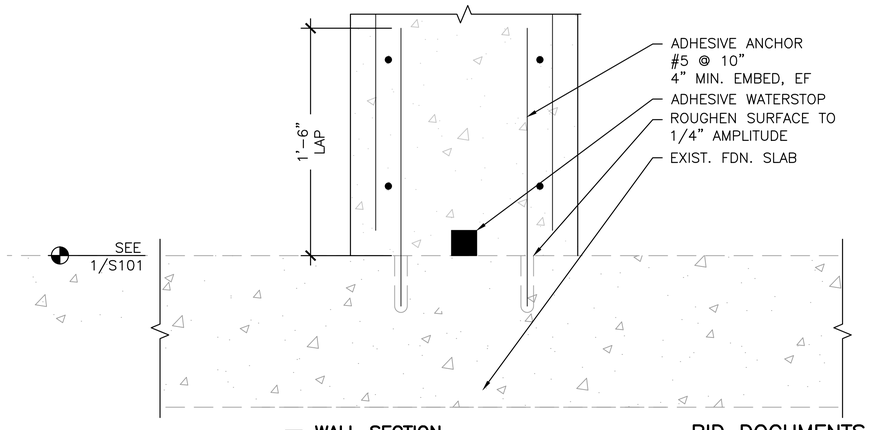
= PARTIAL CONCRETE REMOVAL

1 TYP. SECTION: LIFT STATION
SCALE: 3/4" = 1'-0"



2 DEMO SECTION
SCALE: 3/4" = 1'-0"





3 WALL SECTION
SCALE: 2" = 1'-0"

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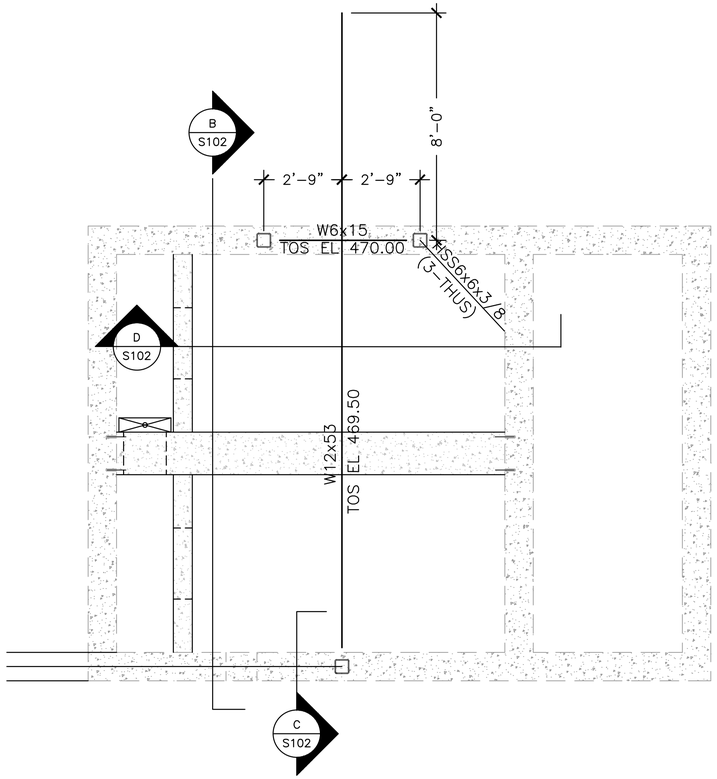
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

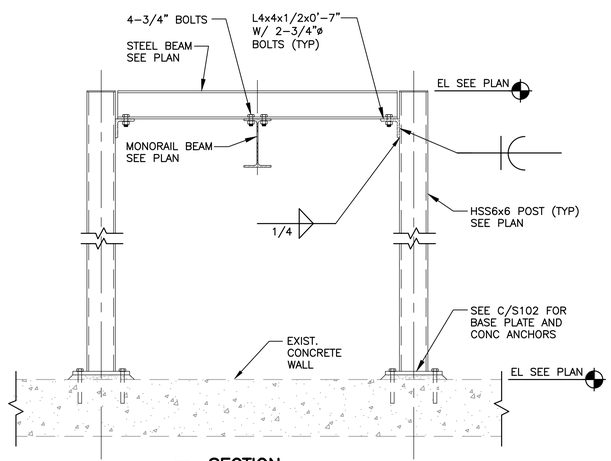
STRUCTURAL
LIFT STATION ELEVATION VIEW

SHEET NO.
S101



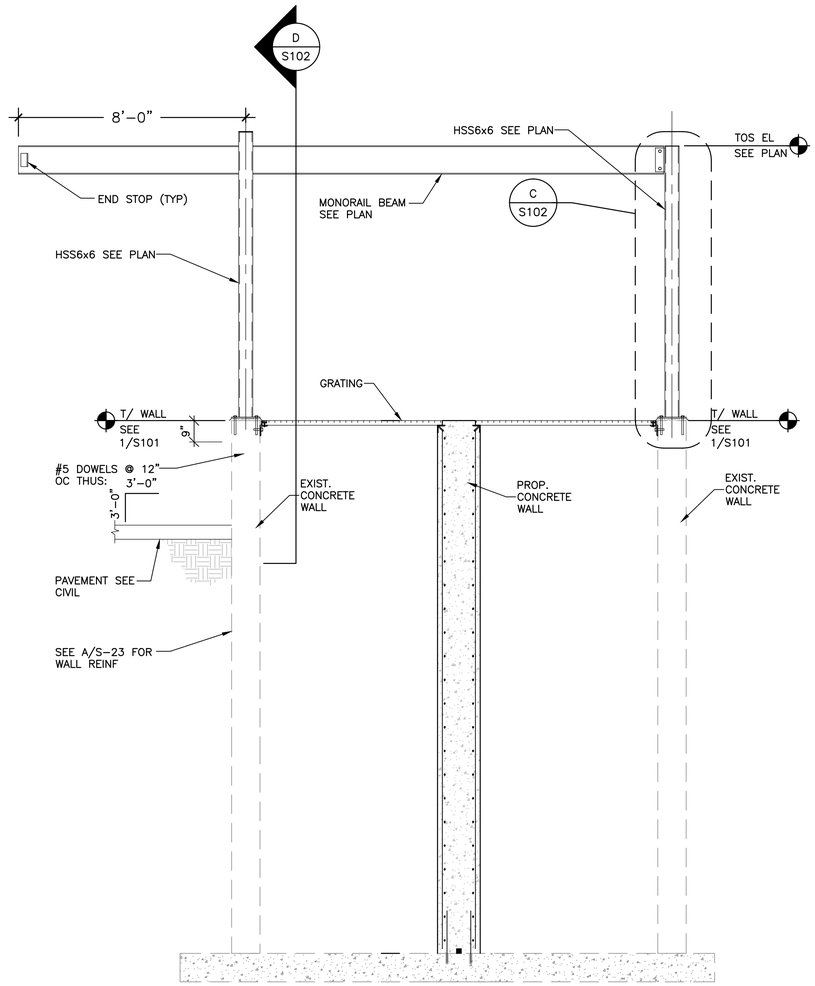
A MONORAIL CRANE PLAN VIEW

SCALE: 3/8" = 1'-0"



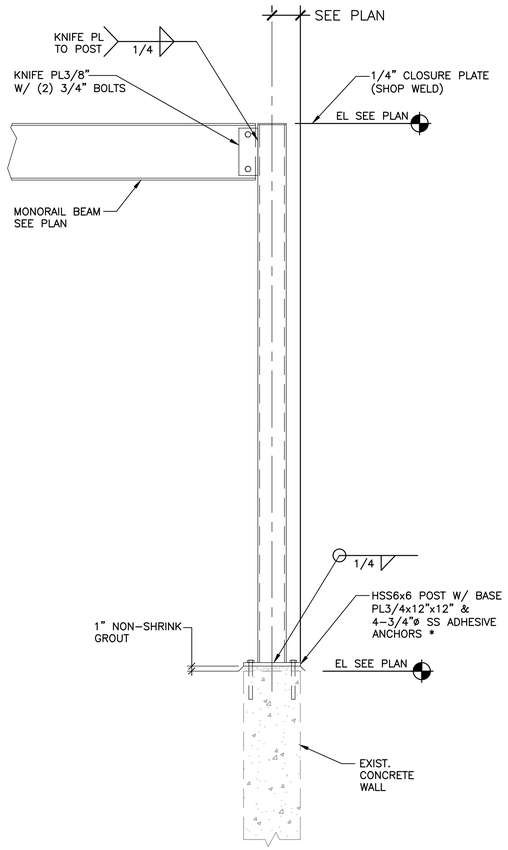
D SECTION

SCALE: 3/4" = 1'-0"



B MONORAIL CRANE ELEVATION VIEW

SCALE: 3/8" = 1'-0"



* USE X-RAY OR PACHOMETER TO IDENTIFY ALL REBAR PRIOR TO DRILLING FOR ANCHORS, AND MARK LOCATIONS W/ PERMANENT MARKER ON FACE OF CONC IN AREA OF CONNECTION. REPORT REBAR LOCATIONS TO ENGINEER PRIOR TO INSTALLING CONC ANCHORS.
HOIST SHELTER NOT SHOWN FOR CLARITY.

C SECTION

SCALE: 3/4" = 1'-0"

NOTES:

1. EMBEDS, CONC ANCHORS AND FASTENERS SHALL BE STAINLESS STEEL.
2. VERIFY OPENINGS AND DIMENSIONS WITH AND EQUIPMENT SUPPLIED.
3. "SB" (IF SHOWN) INDICATES APPROXIMATE LOCATION OF SOIL BORING – FOR REFERENCE ONLY. SEE GEOTECHNICAL REPORT.

KEY NOTES:

(1) VERIFY HATCH AND CENTERLINE OF MONORAIL DIMENSIONS WITH EQUIPMENT PURCHASED. SEE PROCESS DRAWINGS.

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EFFLUENT PUMP STATION IMPROVEMENTS
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CITY OF LASALLE, ILLINOIS

STRUCTURAL
LIFT STATION MONORAIL CRANE DETAILS

SHEET NO.
S102

ADHESIVE AND EXPANSION ANCHORS
UNLESS OTHERWISE NOTED

DIAMETER	3/8"	1/2"	5/8"	3/4"	7/8"	1"
EXP ANCH EMBED.	3"	4"	5"	6"	7"	8"
ADHESIVE ANCH EMBED.	2 1/2"	3"	3 3/4"	4 1/2"	5 1/4"	6"
ALLOWABLE TENSION (LB)	1220	2040	3120	3700	4080	6040
ALLOWABLE SHEAR (LB)	840	1330	2660	3350	5530	6250
CLOSEST ANCHOR (IN) (SEE NOTES C & I)	6 3/4	9	11 1/4	13 1/2	15 3/4	18
CLOSEST EDGE (IN) (SEE NOTE I)	9	12	15	18	21	24

ANCHORAGE TO CONCRETE – POST–INSTALLED ANCHORS
NOTES:
A. UNLESS NOTED OTHERWISE, ANCHORS MAY BE EITHER EXPANSION OR ADHESIVE.
B. UNLESS NOTED OTHERWISE, MINIMUM EMBEDMENT SHALL BE PER TABLE ABOVE. IN NO CASE MAY THE EMBEDMENT BE LESS THAN THE MANUFACTURER'S "MINIMUM EMBEDMENT" FROM PUBLISHED CATALOG LITERATURE.
C. UNLESS NOTED OTHERWISE, MINIMUM CENTER–TO–CENTER SPACING BETWEEN ANCHORS SHALL BE PER TABLE ABOVE ("CLOSEST ANCHOR").
D. EXPANSION ANCHORS – WEDGE–TYPE, GRADE 316 STAINLESS STEEL.
MANUFACTURERS: HILTI "KWIK BOLT III"; ITW RED HEAD "TRUBOLT"; POWERS "POWER–STUD"; OR SIMPSON "WEDGE–ALL".
E. ADHESIVE ANCHORS – EPOXY OR ACRYLIC ADHESIVE WITH GRADE 316 STAINLESS STEEL THREADED ROD.
MANUFACTURERS: HILTI "HY–150"; ITW RED HEAD "EPCON C6" OR "EPCON A7"; OR "AC–100 PLUS".
F. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND ADDITIONAL RECOMMENDATIONS OF ICC EVALUATION SERVICE REPORT.
G. ALL POST–INSTALLED ANCHORS MUST BE INSPECTED TWICE:
a. AFTER HOLE IS DRILLED AND CLEANED, AND
b. DURING INSTALLATION OF ADHESIVE AND ROD OR EXPANSION ANCHOR.
H. ON DRAWINGS, ADHESIVE ANCHORS MAY ALSO BE REFERRED TO AS EPOXY OR EPOXY SET ANCHORS.
I. FOR STATED ALLOWABLE LOAD VALUES TO APPLY, THERE MAY BE NO OTHER ANCHORS WITHIN (18 TIMES THE ANCHOR DIAMETER), AND THERE MAY BE NO FREE CONCRETE EDGE WITHIN (24 TIMES THE ANCHOR DIAMETER).
J. FOR ANCHORS RESISTING TENSION AND SHEAR USE FOLLOWING EQUATION:
(ACTUAL TENSION/ALLOWABLE TENSION) + (ACTUAL SHEAR/ALLOWABLE SHEAR) <1.00
K. UNLESS NOTED OTHERWISE, ADHESIVE ANCHORS MAY NOT BE USED IN OVERHEAD APPLICATIONS.
L. FOR STATED ALLOWABLE LOAD VALUES TO APPLY, DESIGN STRENGTH OF CONCRETE (F'c) MUST BE AT LEAST 4,000 PSI.
M. CONCRETE ANCHORS MAY ALSO BE USED AT CMU, PROVIDED THAT CELLS AT AND ADJACENT TO ANCHOR ARE FULLY GROUTED (TOP AND BOTTOM, AND BOTH SIDES OF ANCHOR CELL). USE 1/2 OF ALLOWABLE LOADS STATED IN TABLE.
N. FOR CONCRETE ANCHORS AT EXISTING STRUCTURES USE X–RAY, RADAR, OR PACHOMETER TO IDENTIFY ALL REBARS PRIOR TO DRILLING FOR ANCHORS, AND MARK LOCATIONS WITH PERMANENT MAKER ON FACE OF CONCRETE IN AREA NEAR CONNECTION. REPORT REBAR LOCATIONS TO ENGINEER PRIOR TO INSTALLING CONCRETE ANCHORS. DO NOT CUT EXISTING REINFORCING.

1 CONCRETE ANCHORS
SCALE: NONE

BAR SIZE	REINF LAP SPLICE TABLE – CONCRETE: CONDITION 1 (CLEAR COVER >= 2 DIA. AND C–TO–C SPACING >= 5 DIA.) TOP *	CONDITION 1 OTHER	CONDITION 2 (CLEAR COVER >= 1 DIA. AND C–TO–C SPACING >= 3 DIA.) TOP *	CONDITION 2 OTHER	CONDITION 3 (NEITHER CONDITION 1 NOR 2 IS MET) ALL BARS	HOOKS: STANDARD 90 DEGREE HOOK LENGTH
#3	1'–4"	1'–4"	2'–0"	1'–6"	SEE NOTE 3	0'–6"
#4	1'–7"	1'–4"	2'–8"	2'–1"		0'–8"
#5	2'–0"	1'–6"	3'–4"	2'–8"		0'–10"
#6	2'–6"	1'–10"	4'–0"	3'–1"		1'–0"
#7	3'–6"	2'–9"	5'–10"	4'–7"		1'–2"
#8	4'–0"	3'–1"	6'–8"	5'–2"		1'–4"
#9	4'–6"	3'–6"	7'–7"	5'–10"		1'–7"
#10	5'–1"	3'–11"	8'–6"	6'–6"		1'–10"
#11	5'–8"	4'–4"	9'–5"	7'–4"		2'–0"

NOTES:
1. BAR COVER AND SPACING MUST BOTH MEET THE CRITERIA OF CONDITION 1 OR 2 IN ORDER TO USE THAT PARTICULAR LAP LENGTH.
2. * TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
3. FOR BARS THAT DO NOT SATISFY EITHER CONDITION, LAP LENGTH SHALL BE THE LENGTH FROM THE APPROPRIATE CATEGORY ("TOP" OR "OTHER") OF CONDITION 2 MULTIPLIED BY 1.5
4. FOR EPOXY–COATED BARS, MULTIPLY FINAL LAP LENGTH BY 1.5.
5. MASONRY REINFORCING:
#5 AND SMALLER: USE 50 TIMES BAR DIA UNO.
#6 AND LARGER: USE 70 TIMES BAR DIA UNO.

2 REBAR LAP AND SPLICE TABLE
SCALE: NONE

CONCRETE MATERIAL SCHEDULE

PROJECT USE	MIX 1 ENVIRONMENTAL STRUCTURES
COMPRESSIVE STRENGTH – MINIMUM	4,500 psi
PORTLAND CEMENT – ASTM C150	Type I/II
FLYASH – ASTM C618, Type C or F	15% max.
AGGREGATE – COARSE – ASTM C33	1" max.
AIR ENTRAINMENT – ASTM C260	6% ± 1%
SUPER PLASTICIZER – ASTM C494	Type F
WATER TO CEMENT RATIO – MAXIMUM	0.42 max.
SYNTHETIC FIBERS	N/A

3 CONCRETE MATERIAL SCHEDULE
SCALE: NONE

CONCRETE PROTECTION FOR REINFORCEMENT
CLEAR CONCRETE COVER DISTANCES UNO

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE IN CONTACT WITH OR IMMEDIATELY ABOVE OR ADJACENT TO WATER/WASTEWATER	2"
CONCRETE EXPOSED TO EARTH OR WEATHER	
#6 THROUGH #11 BARS	2"
#5 AND SMALLER, W31 OR D31 WIRE	1 1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
SLABS, WALLS AND JOISTS: #11 AND LARGER BARS	1 1/2"
#10 AND SMALLER BARS	LARGER OF 1" OR BAR DIA.
BEAMS AND COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS AND SPIRALS	1 1/2"

4 CONCRETE PROTECTION FOR REINFORCEMENT
SCALE: NONE

DESIGN CRITERIA

CODES:

2009 INTERNATIONAL BUILDING CODE
AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318–05)
AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES (ACI 350–06)
AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR MASONRY CONSTRUCTION (ACI 530–058)
AMERICAN INSTITUTE OF STEEL CONSTRUCTION STEEL CONSTRUCTION MANUAL 13TH EDITION

GRAVITY DESIGN LOADING

FLOOR DESIGN LIVE LOADS: UNO
CONCRETE FLOORS: 150 PSF
STAIRS: 100 PSF
GRATING: 100 PSF

LATERAL DESIGN LOADING

WIND:
BASIC WIND SPEED: 90MPH
EXPOSURE: C
IMPORTANCE FACTOR, I: 1.15
NTERNAL PRESSURE COEFFICIENT, GCpi: +–0.18
COMPONENTS AND CLADDING: 28PSF

SEISMIC

SEISMIC ACCELERATION VALUES:
Ss = 0.14
S1 = 0.06
SOIL SITE CLASS: D
IMPORTANCE FACTOR, I: 1.0
SEISMIC DESIGN PARAMETERS:
Sds = 0.15
Sd2 = 0.10
SEISMIC DESIGN CATEGORY: A
DESIGN BASE SHEAR = 0.076W
SEISMIC RESPONSE COEFFICIENT, Cs = 0.076
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

GENERAL NOTES:

1. STANDARD DETAILS AND NOTES ON S900 SERIES APPLY TO ALL CONSTRUCTION UNLESS NOTED OTHERWISE.
2. GEOTECHNICAL REPORT IS AVAILABLE FROM OWNER.
3. APPLY TROWELED FINISH AND CHEMICAL HARDENER/SEALER TO ALL INTERIOR HORIZONTAL CONCRETE SURFACES.
4. APPLY WATER REPELLANT TO ALL EXTERIOR EXPOSED VERTICAL AND HORIZONTAL CONCRETE SURFACES (EXCEPT AT INTERIORS OF SEWAGE–CONTAINING STRUCTURES, OR WHERE OTHER FINISHES ARE CALLED FOR).

BID DOCUMENTS
NOT FOR CONSTRUCTION

Xrefs: XGT-1-BN01.DWG

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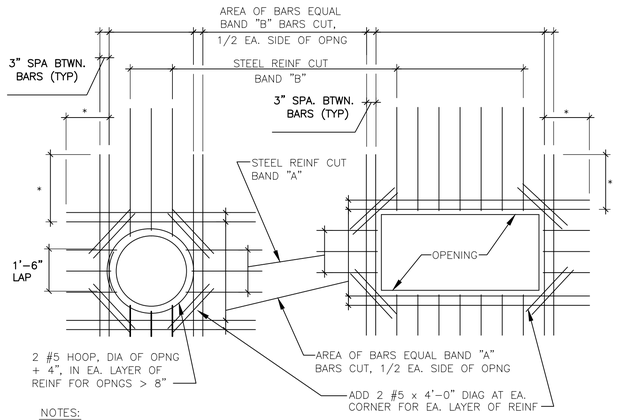
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

STRUCTURAL
DETAIL NOTES

SHEET NO.
S103

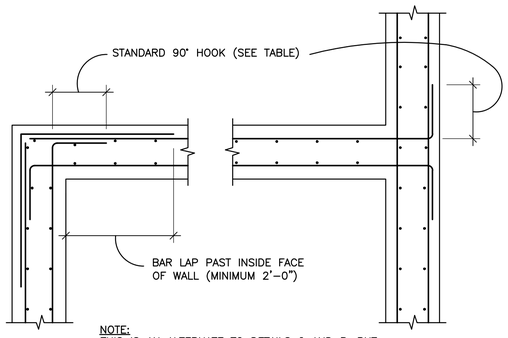


NOTES:

1. TOP BAR LAP LENGTH–CONDITION #2, UNLESS NOTED OTHERWISE ON PLANS.
2. DO NOT WELD REINF TO PIPE SLEEVES AND INSERTS.
3. TYP FOR ALL OPNGS IN CONC. WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
4. COORDINATE WALL OPENINGS WITH ALL DISCIPLINES.

1 OPENING REINFORCEMENT DETAIL

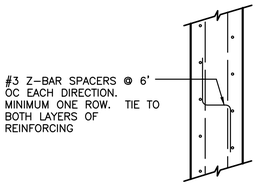
NONE



NOTE:
THIS IS AN ALTERNATE TO DETAILS 2 AND 3, BUT IS ONLY APPLICABLE FOR WALLS LESS THAN 5 FT TALL. DO NOT USE FOR WATER–CONTAINING STRUCTURES.

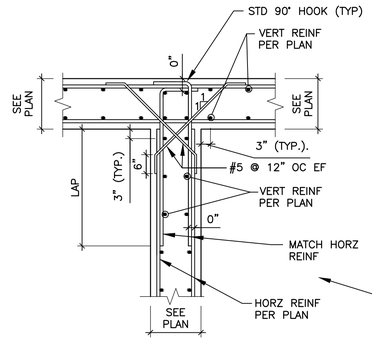
5 TYPICAL TEE WALL DETAIL

SCALE: NONE



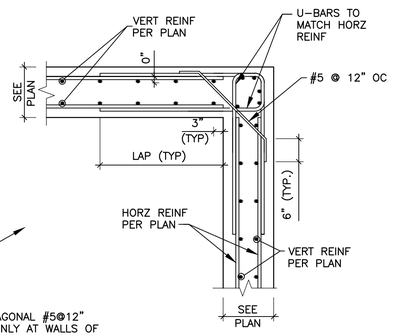
9 SPACERS FOR WALL REINFORCEMENT

SCALE: NONE



2 TYPICAL TEE WALL DETAIL

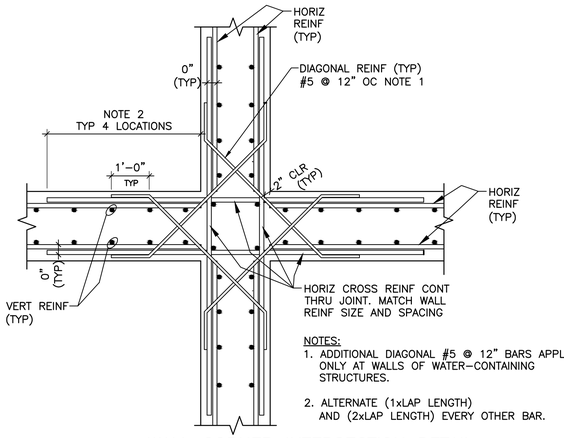
SCALE: NONE



NOTE:
ADDITIONAL DIAGONAL #5@12" BARS APPLY ONLY AT WALLS OF WATER–CONTAINING STRUCTURES

3 TYPICAL CORNER WALL DETAIL

SCALE: NONE

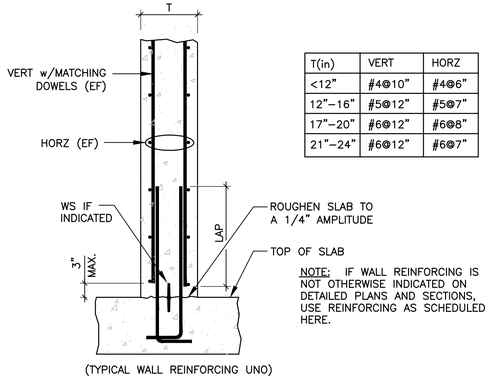


NOTES:

1. ADDITIONAL DIAGONAL #5 @ 12" BARS APPLY ONLY AT WALLS OF WATER–CONTAINING STRUCTURES.
2. ALTERNATE (1xLAP LENGTH) AND (2xLAP LENGTH) EVERY OTHER BAR.

4 WALL CORNER INTERSECTION DETAIL

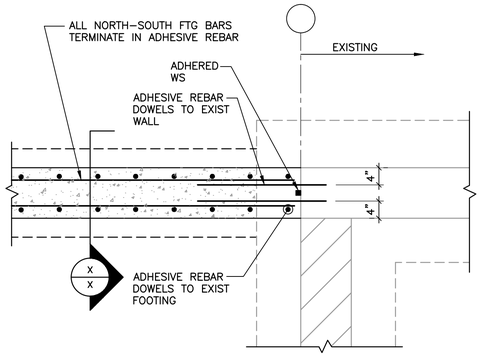
SCALE: NONE



T(in)	VERT	HORZ
<12"	#4@10"	#4@6"
12"–16"	#5@12"	#5@7"
17"–20"	#6@12"	#6@8"
21"–24"	#6@12"	#6@7"

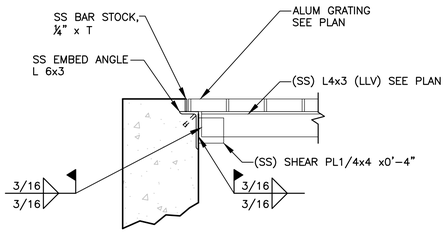
6 MIMIMUM WALL REINFORCING

SCALE: NONE



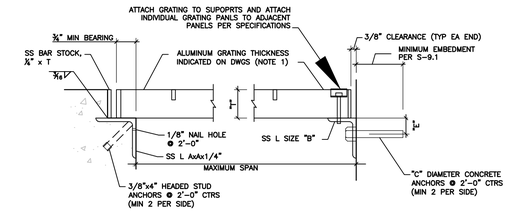
10 WALL/FTG CONNECTION DETAIL

SCALE: NONE



7 TYP GRATING SUPPORT CONNECTION

SCALE: NONE

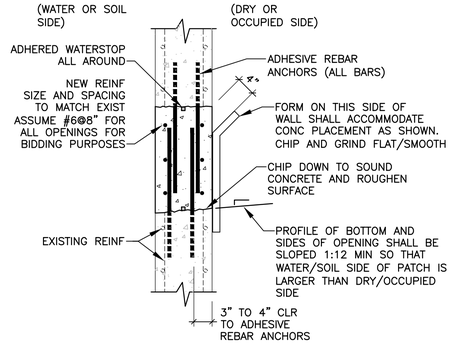


GRATING THICKNESS "T"	L SIZE AXAX1/4"	L SIZE "B"	MAX. SPAN (FT)	ANCHOR DIA "C" (IN)	OFFSET "E" (IN)
1	2-1/2x2-1/2	2-1/2x2-1/2x1/4	3.5	1/2"	1"
1½	2-1/2x2-1/2	3x3x1/4	5.0	5/8"	1"
2	2-1/2x2-1/2	3x3x3/8	6.0	5/8"	1 1/4"
2½	2-1/2x2-1/2	3x3x3/8	7.0	5/8"	1 1/4"

NOTES:
1. ALL GRATING IS ALUMINUM I-BAR – ¾" FLANGES, 1 3/16" ON CENTER, UNLESS NOTED OTHERWISE.
2. IF NO GRATING THICKNESS IS INDICATED ON DRAWINGS, USE GRATING SIZE BASED ON MAXIMUM SPAN TABULATED ABOVE. EXAMPLE: SPAN IS 3'-9" > USE 1 ¾" BEARING BARS.
3. MAXIMUM ALLOWABLE LOAD ON GRATING = 100 PSF.

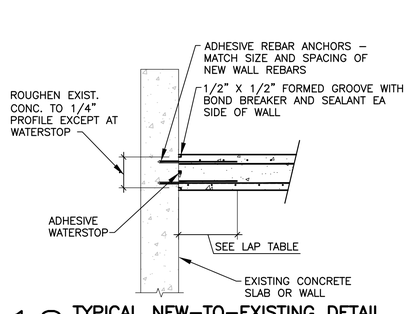
8 GRATING SUPPORT DETAIL

SCALE: NONE



11 REPAIR OF WALL OPENING

SCALE: NONE



12 TYPICAL NEW–TO–EXISTING DETAIL

SCALE: NONE

BID DOCUMENTS
NOT FOR CONSTRUCTION

DRAWN BY:	WJH	JOB DATE:	2013
APPROVED:	JMW	JOB NUMBER:	88110269
CAD DATE:	6/11/2013 2:26:06 PM		
CAD FILE:	\\Hrgyvnas\data\88110269\Lift Station\CAD\dwg\S\88110269-Misc_details.dwg		

BAR IS ONE INCH ON OFFICIAL DRAWINGS.
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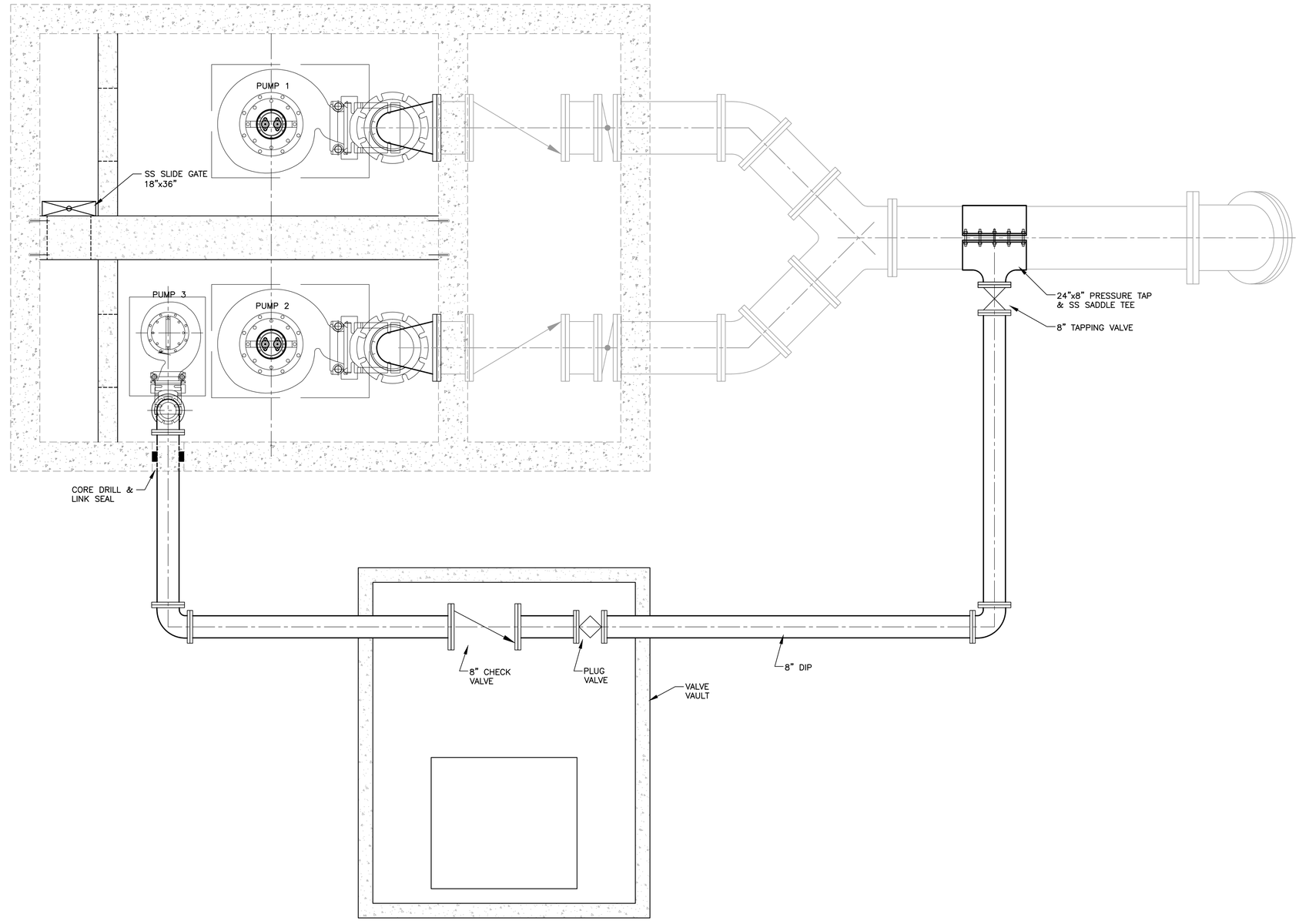
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

STRUCTURAL
MISCELLANEOUS DETAILS

SHEET NO.
S104

Xrefs: XGT-1-DH01.DWG



1 LIFT STATION PLAN
SCALE: 1/2" = 1'-0"

NORTH

BID DOCUMENTS
NOT FOR CONSTRUCTION

DRAWN BY: MPL JOB DATE: 2013
APPROVED: EOC JOB NUMBER: 88110269
CAD DATE: 6/11/2013 2:40:07 PM
CAD FILE: \\Hrgyvnas\data\88110269\Lift Station\CAD\dwg\P\88110269-lift_station_Process.dwg

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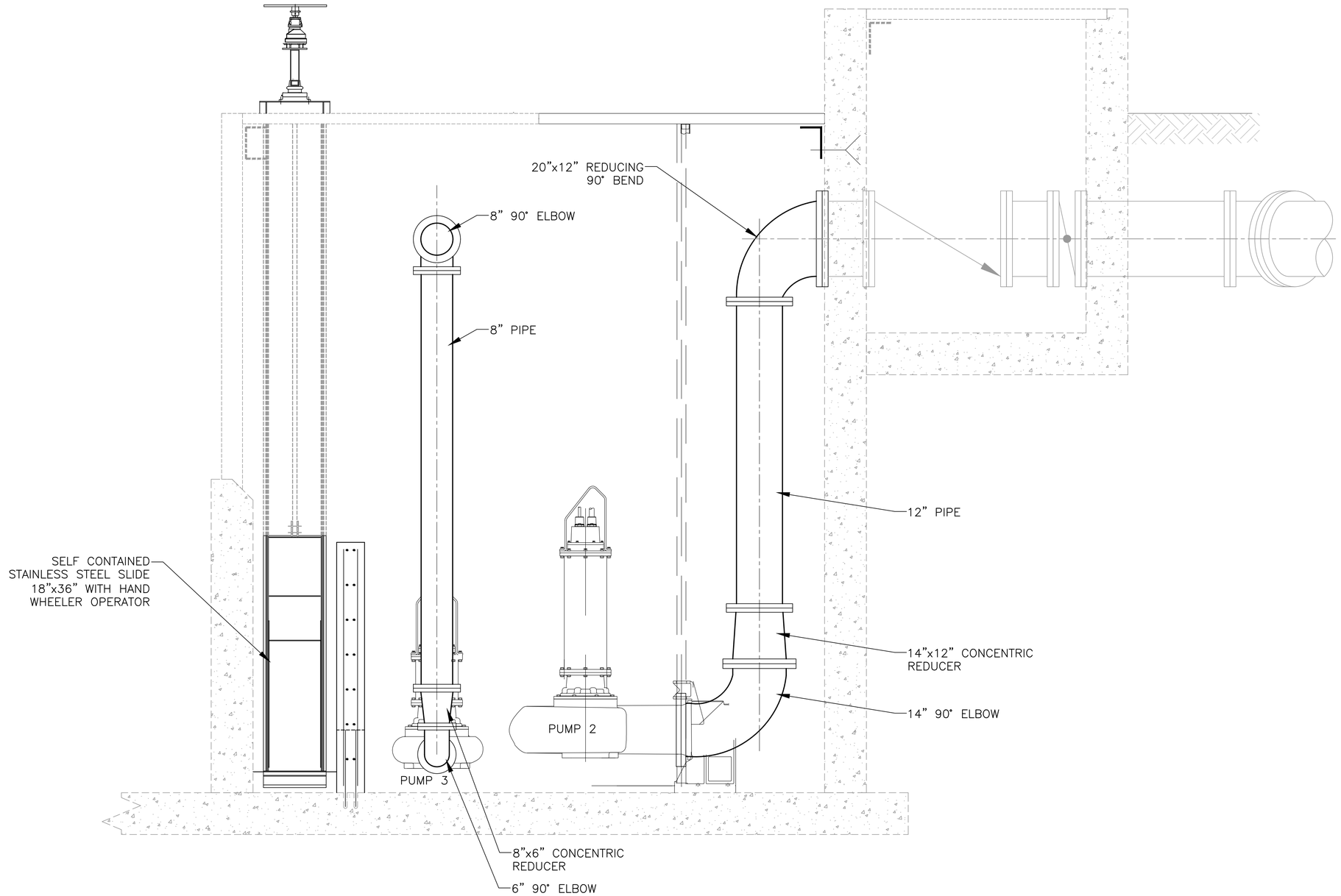
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

PROCESS
LIFT STATION PLAN

SHEET NO.
P100



1 **LIFT STATION SECTION**
SCALE: 3/4" = 1'-0"

BID DOCUMENTS
NOT FOR CONSTRUCTION

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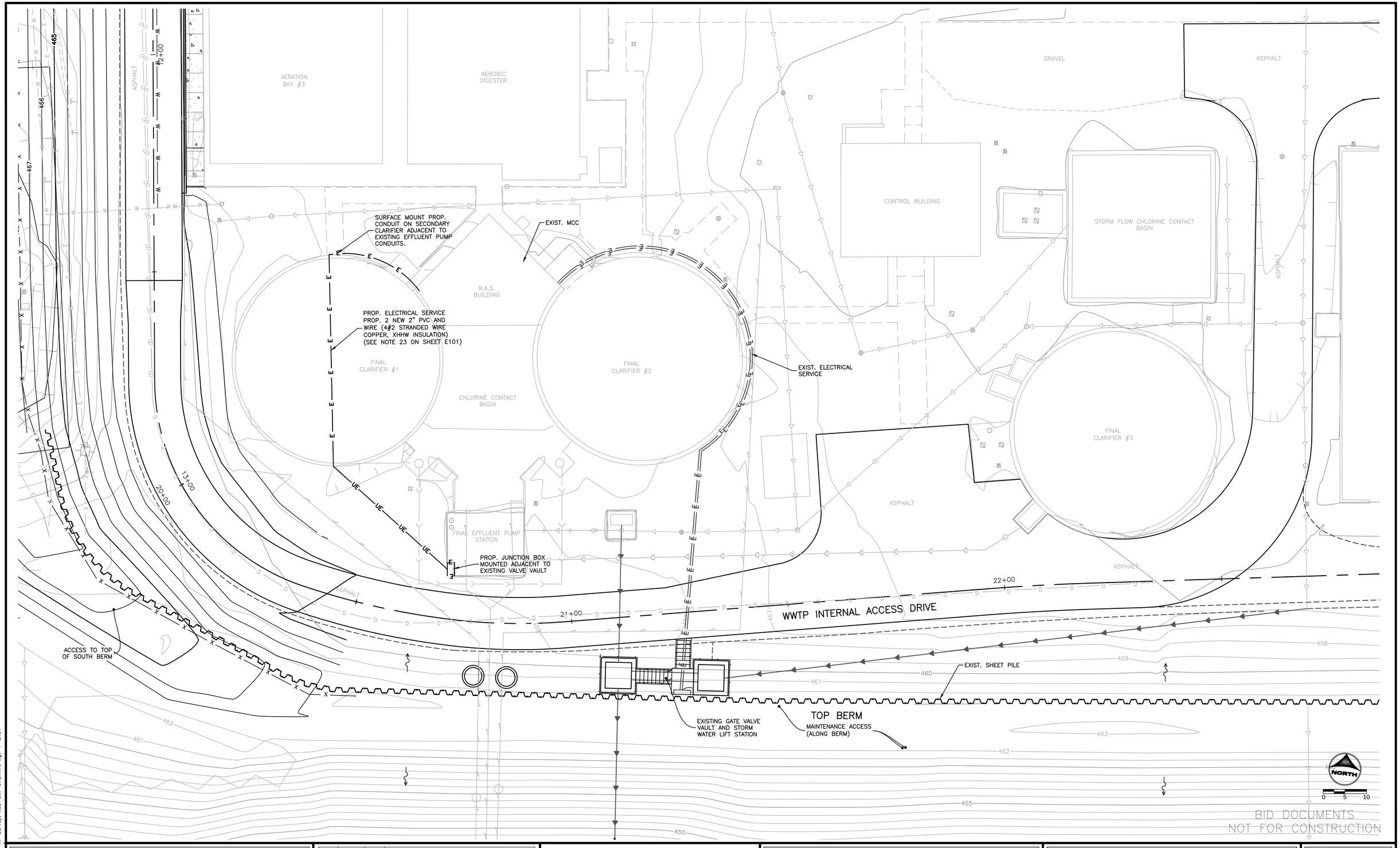
CITY OF LASALLE, ILLINOIS

PROCESS
LIFT STATION SECTION

SHEET NO.
P101



Xrefs: xCs-Dsgn: xV-Survey; xCs-Util-Chamlin; xgt-1-dh01

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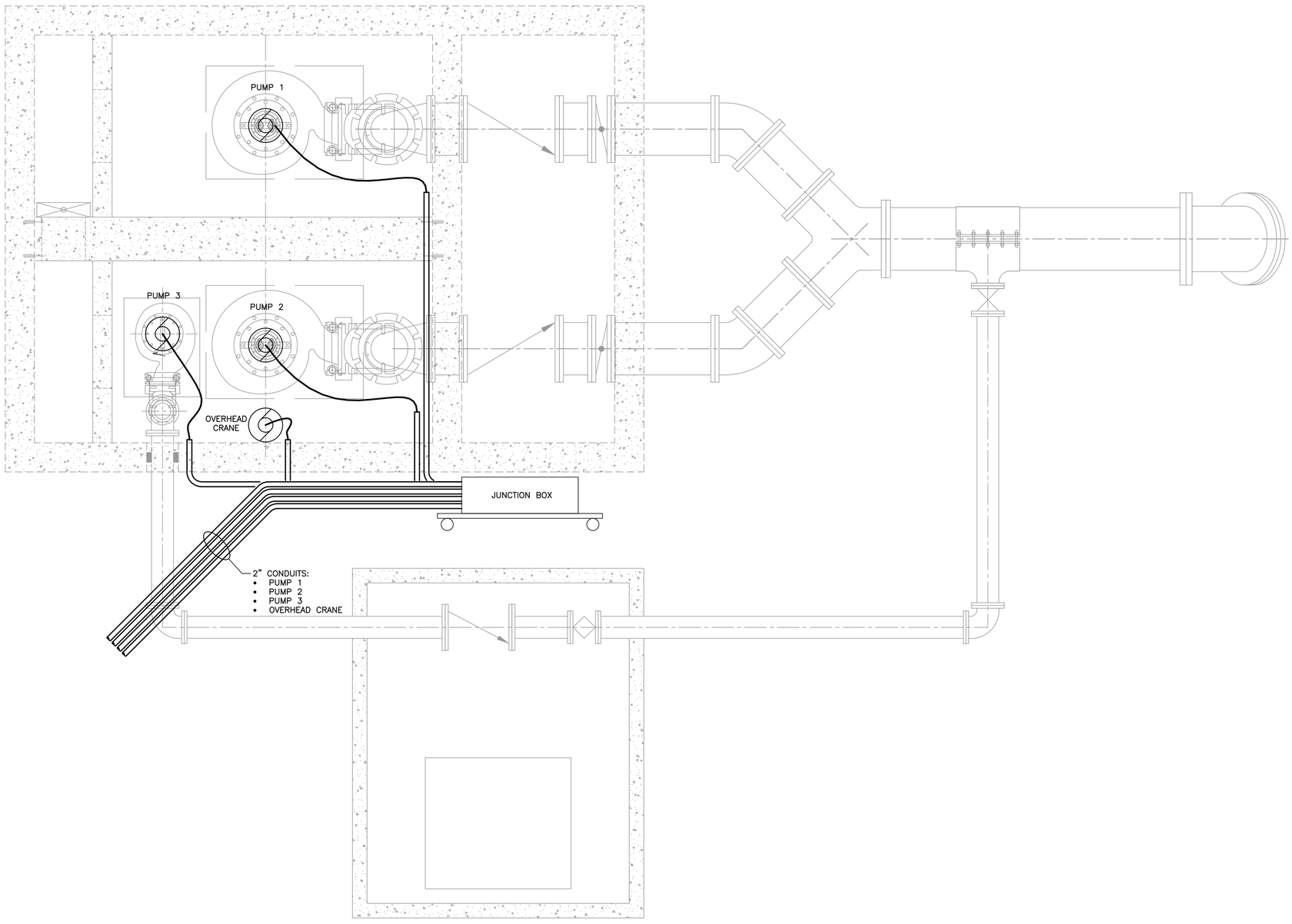
EFFLUENT PUMP STATION IMPROVEMENTS
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

ELECTRICAL

OVERALL ELECTRICAL PLAN

SHEET NO.
E100



1 LIFT STATION PLAN

SCALE: 1/2" = 1'-0"

NORTH

NOTES:

1. FURNISH ALL LABOR AND INSTALL MATERIALS TO PROVIDE A COMPLETE, FUNCTIONAL AND OPERATIONAL SYSTEM AS SHOWN IN THE CONSTRUCTION DOCUMENTS.
2. DOCUMENTS AFFECTING WORK INCLUDE THE DRAWINGS, GENERAL CONDITIONS, SUPPLEMENTAL REQUIREMENTS AND BIDDING DOCUMENTS.
3. MATERIALS AND INSTALLATION SHALL BE COMPLIANT WITH THE NATIONAL ELECTRICAL CODE.
4. PROVIDE ONLY MATERIALS THAT ARE NEW, OF TYPE AND QUALITY SPECIFIED MEETING LABELING AND LISTING OF UL (UNDERWRITER'S LABORATORIES OR OTHER EQUIVALENT NATIONALLY RECOGNIZED TESTING SERVICE ORGANIZATION).
5. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCE IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
6. ALL EQUIPMENT INCLUDING CONDUIT SYSTEM, MOTORS, RECEPTACLES AND OTHER APPARATUS SHALL BE GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
7. CONTRACTOR IS RESPONSIBLE TO PAY ALL FEES, FINES AND PERMITS AS REQUIRED BY ANY AUTHORITY AS NECESSARY TO COMPLETE CONSTRUCTION OF THE PROJECT.
8. DATA INDICATED ON THE CONTRACT DOCUMENTS ARE AS EXACT AS COULD BE SECURED, BUT THEIR ABSOLUTE ACCURACY IS NOT WARRANTED. THE EXACT LOCATIONS, DISTANCES, LEVEL AND OTHER CONDITIONS WILL BE GOVERNED BY ACTUAL CONSTRUCTION. USE THESE DOCUMENTS FOR GUIDANCE AND SECURE THE ENGINEER'S APPROVAL FOR CHANGES.
9. COORDINATE WITH OTHER TRADES TO ASSURE PROPER AND ADEQUATE PROVISION OF THE WORK. COORDINATE INSTALLATION OF THE WORK WITH OTHER TRADES TO PREVENT UNNECESSARY DELAYS.
10. ELECTRICAL SYSTEMS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS AND SHALL BE FREE FROM MECHANICAL AND ELECTRICAL DEFECTS.
11. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE CONTRACT DOCUMENTS, WITHIN THREE DAYS AFTER RECEIPT OF NOTICE OF SUCH NON-COMPLIANCE, REMOVE THE NON-COMPLYING ITEMS AND REPLACE THEM WITH ITEMS MEETING THE REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
12. UPON COMPLETION OF THE WORK, THOROUGHLY CLEAN, INSIDE AND OUT, ELECTRICAL EQUIPMENT, REMOVING ALL TRACES OF SOIL, UNWANTED LABELS, GREASE, OIL AND OTHER FOREIGN MATERIAL. USE CLEANERS APPROVED BY THE EQUIPMENT MANUFACTURER.
13. CONTRACTOR SHALL WARRANTEE MATERIALS AND WORKMANSHIP FOR A PERIOD OF 1 YEAR STARTING AT SUBSTANTIAL COMPLETION.
14. WIRE SHALL BE STRANDED COPPER, 600V, WITH THWN INSULATION.
15. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC AND EXPOSED CONDUIT SHALL BE ALUMINUM UNLESS NOTED OTHERWISE.
16. NUTS, BOLTS, WASHER AND MOUNTING HARDWARE, INCLUDING STRUT SYSTEMS, SHALL BE STAINLESS STEEL.
17. PROVIDE ALARM BEACON MOUNTED TO TOP OF CONTROL PANEL.
18. PROVIDE EQUIPMENT AND MATERIALS SIZED ACCORDING TO THE ONE-LINE AND DETAILS. ITEMS NOT SPECIFIED SHALL MEET THE MINIMUM REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND UL.
19. STRUT SHALL BE HOT DIPPED GALVANIZED STEEL WITH CUT ENDS COATED WITH A GALVANIZING PAINT IMMEDIATELY AFTER CUTTING.
20. CONTRACTOR SHALL SIZE JUNCTION BOXES, PULL BOXES AND HANDHOLES ACCORDING TO NEC ARTICLE 314.
21. GROUND RODS SHALL BE 3/4-INCH DIAMETER, 10-FOOT LONG COPPER CLAD STEEL. CONNECTIONS SHALL BE EXOTHERMIC WELD. GROUND CONDUCTOR SHALL BE #4 (UNLESS NOTED OTHERWISE) BARE COURSE STRANDED COPPER. GROUND CONDUCTORS PASSING THROUGH CONCRETE SHALL BE WIRE-TIED TO RE-INFORCEMENT BARS.
22. ELECTRICAL EQUIPMENT SHALL HAVE SHORT CIRCUIT RATINGS OF 10,000 AIC.
23. ROUTE FEEDER CONDUIT NEATLY ALONG WALLS AND CLARIFIER STRUCTURE AND BELOW HORIZONTAL SURFACES. FOLLOW EXISTING CONDUIT ROUTING WHEN POSSIBLE. CONTRACTOR SHALL FIELD VERIFY AND DETERMINE EXACT ROUTE. POWER WILL BE SUPPLIED FROM THE EXISTING MOTOR CONTROL CENTER IN THE CLARIFIER BUILDING.
24. SEE SITE (OVERALL) PLAN FOR MCC AND LIFT STATION LOCATIONS.

BID DOCUMENTS
NOT FOR CONSTRUCTION

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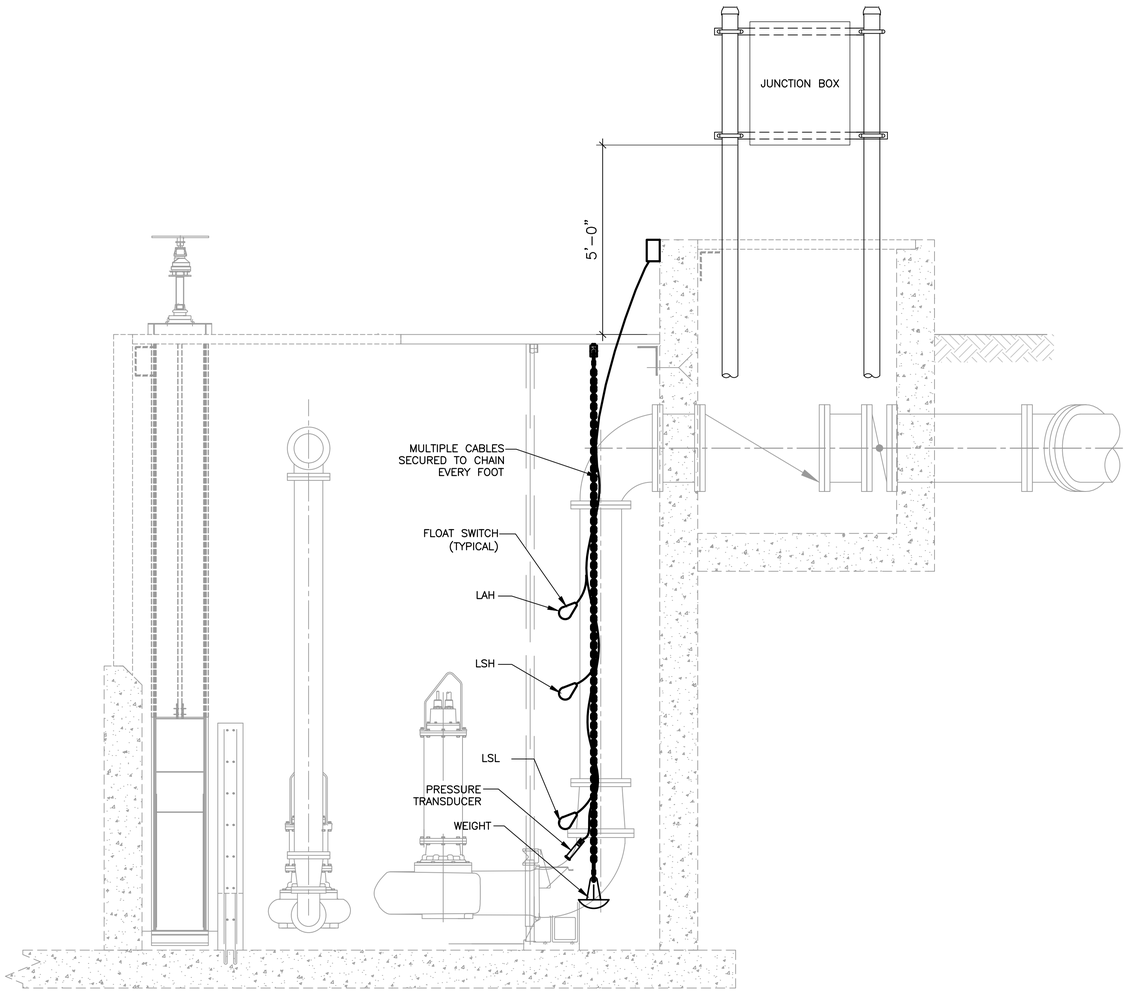
RETAINING WALL CONSTRUCTION PROJECT
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

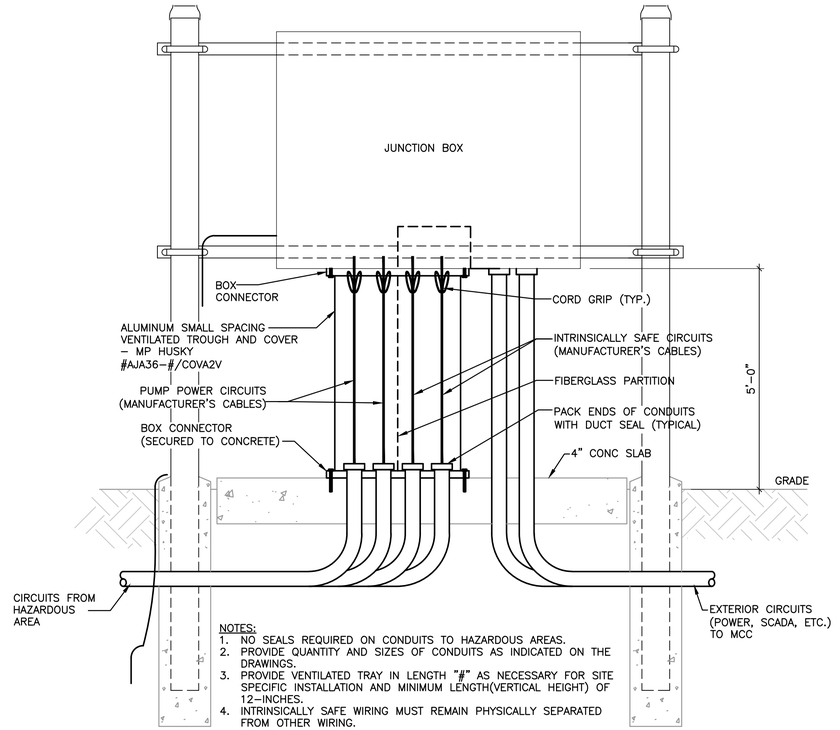
ELECTRICAL
LIFT STATION PLAN

SHEET NO.
E101



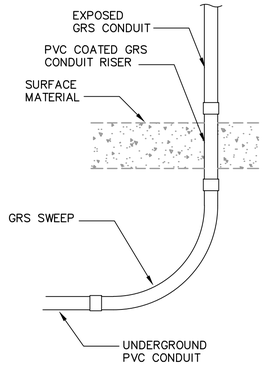
NOTE:
1. RELOCATE EXISTING CONTROLS (FLOAT SWITCHES AND PRESSURE TRANSDUCER).

1 LIFT STATION SECTION
SCALE: 1/2" = 1'-0"

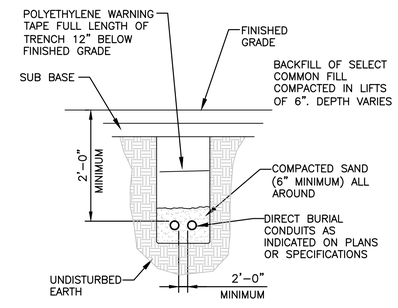


NOTES:
1. NO SEALS REQUIRED ON CONDUITS TO HAZARDOUS AREAS.
2. PROVIDE QUANTITY AND SIZES OF CONDUITS AS INDICATED ON THE DRAWINGS.
3. PROVIDE VENTILATED TRAY IN LENGTH "#" AS NECESSARY FOR SITE SPECIFIC INSTALLATION AND MINIMUM LENGTH(VERTICAL HEIGHT) OF 12–INCHES.
4. INTRINSICALLY SAFE WIRING MUST REMAIN PHYSICALLY SEPARATED FROM OTHER WIRING.

2 TYPICAL HAZARDOUS AREA ENTRY DETAIL
SCALE: NONE



3 TYPICAL BURIED CONDUIT STUB–UP DETAIL
SCALE: NONE



4 TYPICAL TRENCH DETAIL
SCALE: NONE

BID DOCUMENTS
NOT FOR CONSTRUCTION

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RETAINING WALL CONSTRUCTION PROJECT
IKE DISASTER RECOVERY CDBG FUNDED PROJECT
CITY OF LASALLE, ILLINOIS

ELECTRICAL
LIFT STATION SECTION AND DETAILS

SHEET NO.
E102